CERTIFICATE OF CALIBRATION

ISSUED BY AVON-DYNAMIC CALIBRATION

Date of Issue 03 February 2023

Certificate Number K736106

Date of Receipt:

Specification:

Calibrated by:





For:

SIGNATROL LTD UNIT E2 GREEN LANE BUSINESS PARK TEWKESBURY GL20 8SJ Approved Signatory
Mr. J. Hunter

31 January 2023

Manufacturer RLEWIS

Next Calibration Due: 03 February 2024

CALIBRATE MEASURE INNOVATE

Manufacturer:

SIGLENT

Model Number:

SDM3055

Inventory Number:

CE1159

Serial Number:

SDM35FAQ1R1792

Description:

DIGITAL MULTIMETER

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Report:

This instrument has been calibrated to the stated specification, unless otherwise stated. The recorded measurements were correct when taken within the conditions stated. The calibration was carried out using standards which are subject to regular periodic verification and are traceable to National Standards.

Laboratory Conditions

Temperature:

20.1 ± 1°C

Humidity:

50%rh ± 20%rh

Comment:-

Calibrations marked ## (Not UKAS Accredited) in this Certificate have been included for completeness.

Calibration Code A

All prime parameters were found to be within the stated specification with no adjustment

necessary.

Compliance Statement:

Conformity / Non-Conformity statements are based on simple acceptance rule (ILAC-G8:09/2019)

where, Acceptance Limit (AL) equals Tolerance Limit (TL). Provided that the Tolerance

Uncertainty Ratio (TUR) ≥ 1:1.

Date of Calibration:

03 February 2023

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k = 2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

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UKAS ACCREDITED CALIBRATION LABORATORY No 0199

REPORT

The unit under test was allowed to stabilise for 24 hours in the laboratory environment prior to testing. The unit was allowed to settle for 1 minute before each reading was taken. Results: As received. No adjustment was necessary.

<u>Range</u>	Applied Voltage	Instrument Reading	Specification	Uncertainty of Measuremen
200 mV	+ 100.000 00 mV	+ 99.998 mV	± 23 μV	± 1.5 μV
	- 100.000 00 mV	- 100.002 mV	± 23 μV	± 1.5 μV
2 V	+ 1.000 000 0 V	+ 0.999 99 V	± 210 μV	± 8 μV
	- 1.000 000 0 V	- 1.000 00 V	± 210 μV	± 8 μV
20 V	+ 19.000 000 V	+ 19.000 1 V	± 3.7 mV	± 60 μV
	+ 10.000 000 V	+ 10.000 0 V	± 2.3 mV	± 60 μV
	+ 5.000 000 V	+ 4.999 9 V	± 1.6 mV	± 40 μV
	- 10.000 000 V	- 10.000 1 V	± 2.3 mV	± 60 μV
200 V	+ 100.000 00 V	+ 99.999 V	± 21 mV	± 0.80 mV
1 000 V	+ 1 000.000 0 V (100mV to 750V)	+ 999.95 V	± 180 mV	± 9.1 mV
Range Ranges	Applied Voltage	Instrument Reading	Specification	Uncertainty of Measurement
200 mV	100.000 0 mV @ 1 kHz	99.902 mV	± 300 µV	± 19.6 µV
	100.000 0 mV @ 30 kHz	100.133 mV	± 1.1 mV	± 32.6 μV
2 V	1.000 000 V @ 1 kHz	0.999 62 V	± 3.0 mV	± 121 μV
	1.000 000 V @ 30 kHz	1.001 34 V	± 11 mV	± 253 μV
20 V	10.000 00 V @ 1 kHz	9.983 2 V	± 30 mV	± 0.62 mV
	10.000 00 V @ 30 kHz	10.025 6 V	± 0.11 V	± 1.03 mV
200 V	100.000 0 V @ 1 kHz	99.825 V	± 1.2 V	± 7.2 mV
	100.000 0 V @ 30 kHz	100.247 V	± 1.2 V	± 11.0 mV
750 V	750.000 V @ 1 kHz	748.815 V	± 1.85 V	± 79 mV

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor κ = 2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

± 2.48 V

210.563 V

210.000 V @ 30 kHz

Unit 1, The Old Mill, Chapel Lane, Warmley, Bristol, BS15 4NQ Tel: 0117 9477 846 Fax: 0117 9477 831 Website: www.avon-dynamic.co.uk

± 22 mV

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UKAS ACCREDITED CALIBRATION LABORATORY No 0199

Resistance Ranges (10	<u>0Ω to 100MΩ)</u>			
Range	Applied Resistance	Instrument Reading	Specification	Uncertainty of Measuremen
200 Ω	99.998 83 Ω	100.015 Ω	\pm 40 m Ω	\pm 1.4 m Ω
2 kΩ	1.000 002 kΩ	$1.000~14~k\Omega$	$\pm~260~m\Omega$	\pm 12 m Ω
20 kΩ	9.999 842 kΩ	10.001 1 kΩ	± 2.6 Ω	\pm 120 m Ω
200 kΩ	99.998 31 kΩ	100.011 kΩ	± 40 Ω	± 1.5 Ω
2 ΜΩ	$0.999~966~{ m M}{\Omega}$	1.000 03 M Ω	± 480 Ω	± 25 Ω
10 ΜΩ	9.999 794 ΜΩ	10.000 3 M Ω	± 25.3 kΩ	± 480 Ω
100 ΜΩ	100.005 89 MΩ	100.026 $M\Omega$	± 1.754 MΩ	± 12.5 kΩ
C Current Range (10m	nA, 100mA 1A & 3A)			
<u>Range</u>	Applied Voltage	Instrument Reading	Specification	Uncertainty of Measuremer
200 μΑ	+ 100.000 0 µA	+ 100.006 μA	± 0.065 µA	± 11.8 nA
2 mA	+ 1.000 000 mA	+ 1.000 03 mA	± 0.65 μA	± 51 nA
20 mA	+ 10.000 00 mA	+ 10.000 3 mA	± 13.5 μA	± 0.48 µA
200mA	+ 100.000 0 mA	+ 99.998 mA	± 86 μA	± 6.3 μA
2 A	+ 1.000 000 A	+ 0.998 58 A	± 2.1 mA	± 108 μA
10 A	+ 2.000 000 A	+ 1.997 16 A	± 6.0 mA	± 209 μA
C Current Range (1A	<u>& 3A)</u>			
<u>Range</u>	Applied Voltage	Instrument Reading	<u>Specification</u>	Uncertainty of Measuremer
20 mA	10.000 00 mA @ 1kHz	10.0004 mA	± 70 μA	± 0.48 µA
200mA	100.000 0 mA @ 1kHz	99.976 mA	± 1.2 mA	± 6.3 μA
2 A	1.000 000 A @ 1kHz	0.998 92 A	± 9.0 mA	± 344 µA
10 A	2.000 000 A @ 1kHz	1.997 99 A	± 10 mA	± 650 μA
requency Range	Applied Input		Instrument Reading	Uncertainty of Measureme
100 mV	100.000 00 mV @ 100 Hz		999.99 Hz	± 0.1 Hz
1 V	1.000 000 V @ 100 kHz		99.999 kHz	± 10 Hz
Standards Used ADC3614				

Procedure Reference :

Desistance Dennes (4000 to 400MO)

CLI050, CLI051, CLI052, CLI053, CL1054 & CLI055.

-End of Report-

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor κ = 2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

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